titanium thereon on a substrate in a bridge formation, forming contact pads at opposite ends of the bridge formation, and preconditioning the titanium semiconductor bridge igniter by heating it to an elevated temperature to stabilize it against temperature-induced variations in bridge electrical resistance.

18. (amended) A semiconductor bridge igniter consisting essentially of:

a substrate;

an electrical bridge structure disposed on the substrate, the bridge structure consisting essentially of a layer of a semiconductor material and having disposed thereover a layer of titanium, the bridge structure comprising a bridge section extending between and connecting spaced-apart pad sections, each pad section being of larger area than the bridge section; and

a pair of electrically conductive lands each overlying a respective one of the pad sections and being spaced apart from each other to leave the bridge section exposed.

21. (amended) A method for initiating an energetic material using a semiconductor bridge igniter comprising a substrate, an electrical bridge structure disposed on the substrate, the bridge structure comprising a layer of a semiconductor material having a negative coefficient of electrical conductivity at temperatures above ambient temperature and having disposed thereover a layer of metal, the bridge structure comprising a bridge section extending between and connecting spaced-apart pad sections, each pad section being of larger area than the bridge section, and a pair of electrically conductive lands each overlying a respective one of the pad sections and being spaced apart from each other to leave the bridge section exposed;

the method comprising applying a voltage across the lands to generate ohmic heating sufficient to melt the metal and vaporize the semiconductor material in the presence of the energetic material.

Enclosed herewith, in a separate paper, are versions of each amended claim marked up to show the changes made by the foregoing amendments.